

- 20 -

ABSTRACT**COMMON APERTURE ANTENNA**

This invention relates to antennas (26, 28, 30 32, 34) comprising an
5 integrated array of antenna elements (36). More particularly, the invention
relates to antennas (26, 28, 30 32, 34) in which the array of antenna elements
(36) can be reconfigured to suit a multitude of system functions, such as radar,
electromagnetic warfare (EW) and communication. Such antennas (26, 28, 30
32, 34) are often referred to as 'common aperture antennas' and find use on
10 many platforms including airborne vehicles, ships and boats. An antenna (26,
28, 30 32, 34) is provided that comprises a plurality of antenna elements (36),
the antenna (26, 28, 30 32, 34) being operable with sets of the antenna
elements (36) organised into first order groups (14, 46) and with sets of first
order groups (14, 46) organised into sets of second order groups (18).

15

Fig. 4

Rec'd PCT/PTO 16 DEC 2004

(19) World Intellectual Property Organization
International Bureau

10/518237

(43) International Publication Date
24 December 2003 (24.12.2003)

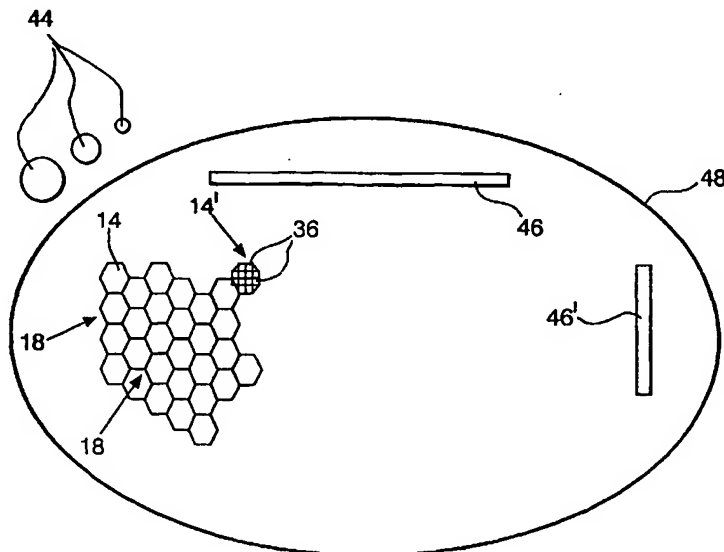
PCT

(10) International Publication Number
WO 03/107479 A1

- (51) International Patent Classification⁷: **H01Q 3/26**, 3/24, 21/00, 25/00
- (74) Agent: **BAE SYSTEMS PLC**; Group IP Department, Lancaster House, P.O. Box 87, Farnborough Aerospace Centre, Farnborough, Hampshire GU14 6YU (GB).
- (21) International Application Number: **PCT/GB03/02552**
- (22) International Filing Date: **13 June 2003 (13.06.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
0213976.4 **18 June 2002 (18.06.2002)** **GB**
- (71) Applicant (for all designated States except US): **BAE SYSTEMS PLC** [GB/GB]; 6 Carlton Gardens, London, SW1Y 5AD (GB).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **GUY, Ronald, Frank, Edward** [GB/GB]; BAE Systems ATC, West Hanningfield Road, Great Baddow, Chelmsford, Essex CM2 8HN (GB).
- Published:
— with international search report

[Continued on next page]

(54) Title: COMMON APERTURE ANTENNA



(57) Abstract: This invention relates to antennas (26, 28, 30 32, 34) comprising an integrated array of antenna elements (36). More particularly, the invention relates to antennas (26, 28, 30 32, 34) in which the array of antenna elements (36) can be reconfigured to suit a multitude of system functions, such as radar, electromagnetic warfare (EW) and communication. Such antennas (26, 28, 30 32, 34) are often referred to as 'common aperture antennas' and find use on many platforms including airborne vehicles, ships and boats. An antenna (26, 28, 30 32, 34) is provided that comprises a plurality of antenna elements (36), the antenna (26, 28, 30 32, 34) being operable with sets of the antenna elements (36) organised into first order groups (14, 46) and with sets of first order groups (14, 46) organised into sets of second order groups (18).

WO 03/107479 A1